

BUBLEYNIKOV, F.

[The earth and the pendulum] Zemlia i maiatnik. Moskva, Detgiz,
1954. 118 p. (MLRA 7:11 D)

BUBLEYNNIKOV, F. D.

Feshchery [Caverns]. Moskva, Goskul'tprosvetizdat, [1954 ?].

SO: Monthly List of Russian Accessions, Vol. 7 No. 2 May 1954.

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GANEIZER, G.

Trip under ground ("Caves." F.D. Bubleinikov. Reviewed by
G. Ganeizer). Vokrug sveta no. 7:60-61 J1 '54. (MLRA 7:8)
(Bubleinikov, Feofan Dmitrievich) (Caves)

BUBLEYNIKOV, Feofan Dmitriyevich; GORSHKOV, G.P., professor, redaktor;
MEZHENISEV, V.A., redaktor; TUMARKINA, N.A., tekhnicheskii redaktor.

[The earth] Zemlia. Pod red. G.P.Gorshkova. Izd.2-os. Moskva, Gos.
izd-vo tekhniko-teoret.lit-ry, 1955. 47 p. (Nauchno-populiarnaya
biblioteka, no.61). (MLRA 9:4)

(Earth)

BUBLEYNIKOV, F.D.; MOLODENSKIY, M.S., redaktor; PEREL', Yu.G., redaktor;
ABTAY'YVA, G.A., tekhnicheskii redaktor.

[Outline of the development of an understanding of the earth] Ocherk
razvitiia predstavlenii o zemle. Moskva, Izd-vo Akademii nauk SSSR,
1955. 205 p. (MIRA 8:4)
(Earth)

BONCHKOVSKIY, V.F.; BUBLEYNIKOV, F.D.; ZISMAN, G.A., redaktor; NEGRIMOVSKAYA,
R.A., ~~tekhnicheskii redaktor~~

[The earth, its figure and physical characteristics; present-day
ideas regarding its historical development] Zemlia, ee figura i
fizicheskie svoistva; sovremennye vsgliady v istoricheskoe razvitii.
Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 252 p. (MLBA 10:1)
(Earth)

BUBLEYNIKOV, Feofan Dmitriyevich; GORDEYEV, D.I., redaktor; ANISIMKIN, I.F.,
redaktor izdatel'stva; KRYNOCHKINA, K.V., tekhnicheskiy redaktor

[Geological prospecting in Russia] Geologicheskije poiski v Rossii.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr,
1956, 250 p. (MLBA 10:2)
(Prospecting)

3(5)

PHASE I BOOK EXPLOITATION

SOV/1138

Bubleynikov, Feofan Dmitriyevich

Tayny zemli (Secrets of the Earth) Moscow, Moskovskiy rabochiy, 1958. 133 p. 35,000 copies printed.

Eds.: Shcherbakova, D.I., Academician, and Gringauz, S.; Tech. Ed.: Yegorova, I.

PURPOSE: The book is written mainly for the young reader.

COVERAGE: This is a popular account of the nature of physical geology, i.e., the origin of the Earth, land forms, formation of mineral deposits, etc. Particular attention is paid to the processes of mountain formation, sedimentation, and erosion including the effects of igneous activity and rock deformations. The author intimates that the book provides a popular explanation of all such processes which have hitherto been considered "great mysteries".

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Secrets of the Earth

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3-23-59

BUBLEYNIKOV, F.D. (Moscow); MOROZOV, V.V. (Moscow); CHUPIK, I.P.;
VYISOV, A.B. (Shemakha, AzSSR)

Brief news, Vis. v shkole 18 no.5:86-96 8-0 '58. (MIRA 11:8)

1.3-ya srednyaya shkola, Stavropol'.
(Physics)

BURLEYNIKOV, Feofan Dmitriyevich; FAYNBOYM, I.B., red.; ATROSHCHENKO,
L.Ye., tekhn.red.

[James Clerk Maxwell, 1831-1879] Dzhems Klerk Maksvell,
1831-1879. Moskva, Izd-vo "Znanie," 1960. 47 p. (Vsesoiuznoe
obshchestvo po rasprostraneniю politicheskikh i nauchnykh
znaniy. Ser.9, Fizika i khimiya, no.19). (MIRA 13:10)
(Maxwell, James Clerk, 1831-1879)

BUHLEYNIKOV, Feofan Dmitriyevich; GRINGAUZ, S., red.; YAKOVLEVA, Ye.,
tekhn.red.

[How man has subdued nature] Kak chelovek pokorial prirodu.
Moskva, Mosk.rabochii, 1960. 170 p.

(MIRA 13:12)

(Industrial arts--History)

BUBLEYNIKOV, Feofan Dmitriyevich; MINCHENKOV, Yevgeniy Yakovlevich; CHEBOTA-
REVA, A.V., red.; SHCHEPTEVA, T.A., tekhn. red.

[Outline of the development of classical mechanics] Ocherk razvitiia
klassicheskoi mekhaniki. Moskva, Gos. uchebno-pedagog. izd-vo M-va
prosv. RSFSR, 1961. 221 p. (MIRA 14:11)
(Mechanics)

БУБЛЕЙНИКОВ, Ф.Д.

Life and work. Priroda 53 no.2:57-64 '64. (MIRA 17:2)

BUBLIAK, P.'

Three-element oscillator regulated by a crystal, p. 121. (Strojnoelektrotechnicky Casopis. Bratislava, Vol 5, No. 2, 1954)

S): Monthly list of East European Accessions, (EEAL), LC Vol 4, No. 6, June 1955, Uncl

~~DUBLIAK, P.~~

BUELIAK, P.

"Changing the Source of Power in Radio Engineering", P. 405. (TECHNICKA
PRACA, Vol. 6, No. 7, July 1954, Bratislava, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), IC, Vol. 4,
No. 1, Jan. 1955, Uncl.

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"Submersible Heater for Electric Washing Machines", P. 433. (TECHNICKA PRACA, Vol. 6, No. 7, July 1954, Bratislava, Czechoslovakia)

SO: Monthly List of East European Accessions, (EFAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

BUBLIAK, F.

Analysis and graphic study of a directcurrent
electronic voltmeter. p. 146. SDELOVACI TECHNIKA.
(Ministerstvo strojirenstvi) Praha. Vol. 4. no. 5,
May 1956.

SOURCE:

East European Accessions List, (EEAL), Library of
Congress Vol. 5, no. 12, December 1956.

BUBLIAK, P.

Apparatus for drawing circular scales. p. 568.
TECHNICKA PRACA, Bratislava, Vol. 6, no. 9, Sept. 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6,
June 1956, Uncl.

BELYAYEV, Ye.I., prof. [deceased]; BADYUK, Ye.Ye.; BOGOROV, I.I.,
 prof.; BUBLICHENKO, L.I., prof. [deceased]; IL'IN, I.V.,
 dots.; KEYLIN, S.L., prof.; MAZHBITS, A.M., prof.;
 MALININ, A.I., zasl. deyatel' Kaz.SSR, prof.; MOSHKOV, B.N.,
 prof.; NIKOLAYEV, A.P., prof.; PERSIANINOV, L.S., prof.;
 POKROVSKIY, V.A., prof.; POLYAKOVA, G.P., kand. med. nauk;
 RAFAL'KES, S.B., dots.; KHASKIN, S.G., prof.; SHTERN, I.A.,
 prof.

[Multivolume manual on obstetrics and gynecology] Mnogo-
 tomnoe rukovodstvo po akusherstvu i ginekologii. Moskva,
 Meditsina. Vol.3. Book 2. [Pathology of the labor and post-
 natal period. Physiology and pathology of the newborn infant]
 Patologiya rodov i poslerodovogo perioda. Fiziologiya i pa-
 tologiya novorozhdennogo. Pt.1. [Pathology of labor] Patolo-
 giya rodov. 1964. 895 p. (MIRA 17:7)

1. Chlen-korrespondent AMN SSSR (for Persianinov). 2. Deystvi-
 tel'nyy chlen AMN SSSR (for Nikolayev).

HUBLICHENKO, N. L.

OSU-A 370

Geologicheskoye Stroyeniye Beregov Teletskogo Oзера i
yego Proiskhozhdeniye: Geological Structure of the Shores
of Lake Teletskoye and its Origin.
Issledovaniya Ozer SSSR., No. 9, 1937, pp. 133-155
Library of Congress, GB1707-A1114
One of the monographs devoted to the study of Lake
Teletskoye in the Altay Mountains. General Title:
Raboty Teletskoy Ekspeditsii.

47

BUBLICHENKO, N. L.

"Geological Structure of the Shores of Lake Teletskoye and its Origin [Geologicheskoye Stroyeniye Beregov Teletskogo Oзера i yego Proishkhozhdeniye],"
Issledovaniya Ozer SSSR, No. 9, 1938, pp. 133-155.

One of the monographs devoted to the study of Lake Teletskoye in the Altay Mountains.

Library of Congress, GB1707-ALL4

EUBLICHENKO, N.L.

~~Ural facies of the Kazakhstan Devonian. Izv. AN Kazakh. SSR~~
Ural facies of the Kazakhstan Devonian. Izv. AN Kazakh. SSR
Ser.geol. no.9:3-36 '45. (MLRA 9:6)
(Kazakhstan--Geology, Stratigraphic)

NUBLICHENKO, Nikolay Lazarevich

"A New Stratigraphical Scheme of Devonian Deposits of Nort.-Eastern
Kazakhstan," Dok. AN, 47, No. 5, 1945.

~~BUBLICHENKO, N. I.~~

Eastern border of the Ural Paleozoic geosyncline. *Biul. MOIP. Otd.*
geol. 26 no.5:15-33 '51. (MIRA 11:5)
(Ural Mountain region--Geology)

1. BUBLICHENKO, N. L.
2. USSR (600)
4. Kara Tau - Geology, Structural
7. Origin of the quaquaversal folding the Kara Tau (South Kazakhstan).
Biul. MOIP. Otd. geol. 27 No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

IVSHIN, N.K.; BUBLICHENKO, N.L., doktor geologo-mineralogicheskikh nauk
otvetstvennyy redaktor; CHERNYSHEVA, N.Ye., kandidat geologo-
mineralogicheskikh nauk, otvetstvennyy redaktor; BAKSHEYEVA, M.A.,
redaktor; ROROKINA, Z.P., tekhnicheskii redaktor.

[Middle Cambrian trilobites of Kazakhstan] Srednekembriiskie
trilobity Kazakhstana. Part I. [Boshchekul' faunal horizon]
Boshchekul'skii faunisticheskii gorizont. Alma-Ata, Izd-vo
AN KazSSR, 1953. 226 p. (MLA 8:2)
(Kazakhstan--Trilobites)

BUBLICHENKO, M.L., doktor geologo-mineralogicheskikh nauk.

M.A. Rshonenitskaia's work "Spiriferids of Devonian deposits on the margin of the Kuznetsk Basin." Vest. AN Kazakh SSR 11 no.10: 120-121 0 '54. (MLRA 8:1)

(Rshonenitskaia, M.A.) (Kuznetsk Basin--Brachiopoda, Fossil)

15-1957-3-2605

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 6 (USSR)

AUTHORS: Bublichenko, N. L., Nikitina, L. G.

TITLE: The Tarkhanskiy Section (Southwestern Altay) [Tarkhanskiy razrez (Yugo-Zapadnyy Altay)]

PERIODICAL: Tr. Altaysk. gorno-metallurg. n.-i. in-ta AN KazSSR, 1955, Vol 2, pp 5-25

ABSTRACT: The Devonian and Carboniferous section of the Emeinogorsko-Tarkhanskiy belt of southwestern Altay is described in detail (see Table). According to the author, the fossils in the Tarkhanskaya svita (series) are carboniferous, although Devonian forms are also present. The following Carboniferous forms are found in the lower part of the Tarkhanskaya series: Linoproductus aff. ovatus Hall., Plicatifera orthomastis sp. n., Productus minax subgen. and sp. n., and others. The Devonian forms present are Cyrtospirifer kureki Bubl. and Tylothyris nasacostalis Hall. The upper boundary of the Tarkhanskaya series is determined by the disappearance of Cyrtospirifer kureki and the appearance of Spirifer tornacensis Kon.

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15-1957-3-2605

The Tarkhanskiy Section (Southwestern Altay) (Cont.)

The boundary between the Bukhtarminskaya and Ul'binskaya series is based on the abundant appearance of bryozoans in the Bukhtarminskaya series and the disappearance of other organisms. The Maloul'binskaya series is correlated with the Mazurovskaya series of the Kuzbas (Kuznetsk Basin) on the basis of plant remains. The Middle Devonian rocks of the Tarkhanskaya and Maloul'binskaya series are characterized by their transgressive relationships.

Namurian stage	Maloul'binskaya series. Continental sediments, consisting of siltstones with <u>Angaropteridium cardiopteroides</u> ; up to 1000 m thick.
Visean stage	Ul'binskaya series. Siltstones and limestones with bryozoans <u>Polypora sibirica</u> , brachiopods <u>Productus</u> ex. gr. <u>pinguis</u> and others; 300-400 m thick.

Card 2/4

15-1957-3-2605

The Tarkhanskiy Section (Southwestern Altay) (Cont.)

TOURNAISIAN STAGE	TARKHANSKAYA SERIES	<p>Bukhtarminskaya series. Limestones with <u>Spirifer tornacensis</u> and others; about 100 m thick.</p> <p>Tarkhanskaya subseries. Retoporinal beds, siltstones with <u>Retoporina altaica</u> and others, brachiopod layers, siltstones with <u>Spirifer iulii</u> and others; 580 m thick.</p> <p>Subseries of detrital shales. Yellowish-green siltstones 280 m thick.</p> <p>Subseries of sandstones. Interbedded coarse-grained sandstones and shales; remains of <u>Linoproductus</u> aff. <u>ovatus</u>, <u>Cyrtospirifer kureki</u>, and others; 28-29 m thick.</p> <p>Subseries of basal conglomerates. Pebbles formed from underlying volcanic rocks; up to 59 m thick.</p>
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Card 3/4

15-1957-3-2605

The Tarkhanskiy Section (Southwestern Altay) (Cont.)

Upper Devonian	Series of basic and intermediate volcanics. Augite porphyrites and their tuffs; 700 m thick.
Middle Devonian	Series of acid volcanics with Nikolayevskiy beds at the base. Quartz keratophyres and their tuffs; limestones at the base with goniatites; 1200-1800 m thick.
Lower Silurian (?)	Metamorphic greenstones

Card 4/4

K. A. K.

BUB-ICHENKO, N.L.

BUBLICHENKO, N.L., doktor geologomineralogicheskikh nauk

Conference on problems of stratigraphy and geochronological
classification. Vest.AN Kazakh.SSR 11 no.7:79-82 J1'55.
(Geology, Stratigraphic) (MIRA 8:10)

BURLICHENKO, N. L.; BUL'VANKER, E. Z.; KOMAR, V. A.

Discovery of *Calceola sandalina* Lamarck in the Rudnyy Altai. Biul.
MOIP. Otd. geol. 30 no. 4: 75-77 J1-Ag'55. (MIRA 8:12)
(Altai Mountains--Corals, Fossil)

BUELICHENKO, N.L.

Upper time limit of polymetallic mineralization in the Rudnyy
Altai. Vest.AN Kazakh. SSR 12 no.10:101-103 0 '56. (MLBA 9:12)
(Altai Mountains--Mineralogy)

BUBLICHENKO, N.L.

Some new representatives of Brachiopoda of the Devonian and
Carboniferous from the Rudnyy. Izv. AN Kazakh.SSR.Ser.geol.
no.23:93-104 '56. (MIRA 10:1)
(Altai Mountains--Brachiopoda, Fossil) (Kazakhstan--Brachiopoda,
Fossil)

BUBLICHENKO, N.L.

BUBLICHENKO, N.L.

Some controversial problems on the stratigraphy of the Altai region.
Trudy Alt. GIMII AN Kazakh, SSR 4:38-51 '57. (MIRA 11:1)
(Altai Territory--Geology, Stratigraphic)

BUBLICHENKO, N.I.

"Strishkovskie" strata (Oivetian stage in Rudnyy Altai). Trudy Alt.
Gornii AN Kazakh. SSR no. 5:3-13 '57. (MIRA 11:4)
(Altai Mountains--Geology, Stratigraphic)

BUBLICHENKO, N.L.

BORUKAYEV, R.A., akad.; BORSUK, B.I.; KELLER, B.M.; AYDALIYEV, Zh.A.;
BOGDANOV, A.A.; BUBLICHENKO, N.L.; BYKOVA, M.S.; GALITSKIY, V.V.;
MEDOYEV, G.Ts.; MYAGKOV, V.M.; ORLOV, I.V.; RUKAVISHNIKOVA, T.B.;
SHLYGIN, Ye.D.; NIKITIN, I.F., uchenyy sekretar'; SENKEVICH, M.A.,
uchenyy sekretar'.

[Resolutions of the Conference on the Unification of Stratigraphic
Charts of the Pre-Paleozoic and Paleozoic of Eastern Kazakhstan]
Rezoliutsiya po unifikatsii stratigraficheskikh skhem dopaleozoya
i paleozoya vostochnogo Kazakhstana. Alma-Ata, Izd-vo Akad. nauk
Kazakhskoi SSR, 1958. 36 p. (MIRA 11:12)

1. Soveshchaniye po unifikatsii stratigraficheskikh skhem dopaleo-
zoya vostochnogo Kazakhstana. Alma-Ata, 1958. 2 Akademiya nauk
Kazakhskoy SSR, predsdatel' soveshchaniya po unifikatsii strati-
graficheskikh skhem dopaleozoya i paleozoya vostochnogo Kazakhstana
(for Borukayev). 3. Zam.predsdatelya soveshchaniya po unifikatsii
stratigraficheskikh skhem dopaleozoya i paleozoya vostochnogo
Kazakhstana; Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii
institut (for Borsuk). 4. Zam.predsdatelya soveshchaniya po uni-
fikatsii stratigraficheskikh skhem dopaleozoya i paleozoya vostochnogo
Kazakhstana; Geologicheskii institut Akademii nauk SSSR (for Keller).
5. Ministerstvo geologii i okhrany neдр Kazakhskoy SSR (for Ayta-
liyev, Myagkov). 6. Moskovskiy gosudarstvennyy universitet im. M.V.
(Continued on next card)

BORUKAYEV, R.A.---(continued) Card 2.

Lomonosova (for Bogdanov). 7. Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy institut Akademii nauk Kazakhskoy SSR (for Publichenko). 8. Institut geologicheskikh nauk Akademii nauk Kazakhskoy SSR (for Bykova, Galitskiy, Medoyev, Shlygin, Nikitin). 9. Tsentral'no-Kazakhstanskoye geologicheskoye upravleniye (for Orlov). 10. Ydshno-Kazakhstanskoye geologicheskoye upravleniye (for Rukavishnikova, Senkevich).

(Kazakhstan--Geology, Stratigraphic)

RADCHENKO, Margarita Iosifovna; NALIVKIN, D.V., akademik, glavnyy red.;
BUBLICHENKO, N.L., doktor geol.-mineral.nauk, otv.red.;
MEYBURG, M.F., doktor geol.-mineral.nauk, red.; VLASOVA, S.M.,
red.isd-va; KRYNOCHKINA, K.V., tekhn.red.

[Paleontological basis of the Paleozoic stratigraphy of the
Rudnyy Altai] Paleontologicheskoe obosnovanie stratigrafii
paleozois Rudnogo Altaia. Moskva, Gos.nauchno-tekhn.isd-vo
lit-ry po geol. i okhrane nedr. No.8. [Plant remains of the
Carboniferous of the Rudnyy Altai] Rastitel'nye ostatki karbona
Rudnogo Altaia. 1958. 54 p. (MIRA 12:4)
(Rudnyy Altai--Paleobotany)

BUBLICHENKO, N.L.; NEKHOROSHEV, V.N.

Fiftieth anniversary of the death of G.G.Petts, geologist and
paleontologist, the eminent explorer of the Altai. Izv.AN
Kazakh.SSR.Ser.geol. no.4:114 '58. (MIRA 12:4)
(Petts, G.G., -1908)

BUBLICHENKO, N.L.; DUBATOLOV, V.N.; MAKSIMOVA, Z.A.; SPASSKIY, N.Ya.

Paleontological basis for the stratigraphy of Rudnyy Altai.
Trudy Alt. GIMII AN Kazakh SSR 6:3-39 '58. (MIRA 12:1)
(Altai Mountains--Paleontology)

BUBLICHENKO, N.L.; SPENKEVICH, M.A.

~~International conference on the Silurian-Devonian stratigraphy.~~

Izv. AN Kazakh. SSR. Ser.geol. no.1:104-106 '59. (MIRA 12:4)

(Prague--Geology, Stratigraphic--Congresses)

AVROV, P.Ya.; AYTEALIYEV, Zh. A.; AUEZOV, M.O.; AKHMEDSAFIN, U.M.; BATISHCHEV-
 TARASOV, S.D.; BAZANOVA, N.U.; BAISHEV, S.B.; BAYKONUROV, A.B.;
 BEKTUROV, A.B.; BOGATYREV, A.S.; BOK, I.I.; BORUKAYEV, R.A.; ~~BUBELICHENKO,~~
~~N.L.~~; BYKOVA, M.S.; ZHILINSKIY, G.R.; ZYKOV, D.A.; IVANKIN, P.F.;
 KAZANLI, D.N.; KAYUPOV, A.K.; ~~ZEMESBAYEV~~, S.K.; KOLOTILIN, N.F.;
 KUNAYEV, D.A.; KUSHEV, G.L.; LAYANOV, V.V.; MASHANOV, O.Zh.; MEDOYEV,
 G.TS.; MONICH, V.K.; MUKANOV, S.; MUSREPOV, G.; MUKHAMEDZHANOV, S.M.;
 PARSHIN, A.V.; POFROVSKIY, S.N.; POLOSUKHIN, A.P.; RUSAKOV, M.P.;
 SERGIYEV, N.G.; SIFYULLIN, S.Sh.; TAZHIBAYEV, P.T.; FESENKOV, V.G.;
 SHLYGIN, Ya.D.; SHCHERBA, G.N.; CHOKIN, Sh.Ch.; CHOLPANKULOV, T.Ch.

Sixtieth birthday of Academician Kanysh Iwantaevich Satpaev. Vest.
 AN Kazakh. SSR 15 no.4:58-61 Ap '59. (MIRA 12:7)
 (Satpaev, Kanysh Iwantaevich, 1899-)

BORUKAYEV, R.A., akademik, otv.red.; AYTALIYEV, Zh.A., red.; BUBLICHENKO, N.L., red.; BYKOVA, M.S., red.; GALITSKIY, V.V., red.; IVSHIN, N.K., red.; MEDOYEV, G.TS., red.; NIKITIN, I.F., red.; RUKAVISHNIKOVA, T.B., red.; SEMKEVICH, M.A., red.; SHLYGIN, Ye.D., red.; SEMENOV, M.N., red.; PROKHOROV, V.P., tekhn.red.

[Transactions of the conference on the unification of stratigraphic diagrams of the Pre-Paleozoic and Paleozoic in eastern Kazakhstan, Alma-Ata, May 12-17, 1958.] Trudy Soveshchaniya po unifikatsii stratigraficheskikh skhem dopaleozoya i paleozoya Vostochnogo Kazakhstana. Alma-Ata. Izd-vo Akad.nauk Kazakhskoi SSR. Vol.1. [Pre-Paleozoic, Cambrian, Ordovician, Silurian] Dopaleozoi, kembrii, ordovik, silur. 1960. 296 p. (MIRA 13:6)

1. Soveshchaniye po unifikatsii stratigraficheskikh skhem dopaleozoya i paleozoya Vostochnogo Kazakhstana. Alma-Ata, 1958. 2. Predsedatel' Orgkomiteta stratigraficheskogo soveshchaniya; AN KazSSR; Institut geologicheskikh nauk AN KazSSR (for Borukayev). 3. Institut geologicheskikh nauk AN KazSSR (for Nikitin). 4. Yuzhno-Kazakhstanskoye geologicheskoye upravleniye (for Rukavishnikova).
(Kazakhstan--Geology, Stratigraphic)

BORUKAYEV, R.A., otv.red.; AYDALIYEV, Zh.A., red.; BUBLICHENKO, N.L., red.;
BYKOVA, M.S., red.; GALITSKIY, V.V., red.; MEDOYEV, G.TS., red.;
NIKITIN, I.F., red.; RUKAVISHNIKOVA, T.B., red.; SENKEVICH, M.A.,
red.; SHLYGIN, Ye.D., red.; SEMENOV, M.N., red.; PROKHOROV, V.P.,
tekhn.red.

[Transactions of the Conference on the Unification of Stratigraphic
Scales of the Pre-Paleozoic and Paleozoic in Eastern Kazakhstan.
Alma-Ata, 1958] Trudy Soveshchaniia po unifikatsii stratigraficheskikh
skhem dopaleozoya i paleozoya Vostochnogo Kazakhstan. Alma-Ata,
Izd-vo Akad.nauk Kazakhskoi SSR. Vol.2. [Devonian, Carboniferous,
Permian] Devon, karbon, perm'. 1960. 253 p. (MIRA 13:8)

1. Soveshchaniye po unifikatsii stratigraficheskikh skhem dopaleozoya
i paleozoya Vostochnogo Kazakhstan. Alma-Ata, 1958. 2. Altayskiy
gornometallurgicheskii nauchno-issledovatel'skiy institut AN KazSSR
(for Bublichenko). 3. Institut geologicheskikh nauk AN KazSSR (for
Bykova). 4. Yuzhno-Kazakhstanskoye geologicheskoye upravleniye (for
Senkevich).

(Kazakhstan--Geology, Stratigraphic)

MAKSIMOVA, Zlata Aleksandrovna; NALIVKIN, D.V., akademik, glavnyy red.;
BUBLICHENKO, N.L., doktor geol.-mineral.nauk, otv.red.; BALASHOVA,
Ye.A., kand.geol.-mineral.nauk, red.; ABKEVICH, P.L., red.izd-va;
IVANOVA, A.G., tekhn.red.

[Paleontological basis of Paleozoic stratigraphy in the Rudnyy Altai]
Paleontologicheskoe obosnovanie stratigrafii paleozois Rudnogo Al-
taia. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane
nedr. No.7. [Devonian and Carboniferous trilobites of the Rudnyy Al-
tai] Devonskie i kamennougol'nye trilobity Rudnogo Altaia. 1960.
122 p. (MIRA 13:12)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Altayskiy gorno-metal-
lurgicheskiy nauchno-issledovatel'skiy institut.
(Altai Mountains--Trilobites)

PUBLICHENKO, N.L., DOGOTSKAYA, L.N., FATKULIN, R.M.

Considering problems of geotectonic and the organic
world. Vest. AN Kazakh SSR 16 no.4:81 Ap '60. (MIRA 13:7)
(Geology, Structural) (Biology)

SPASSKIY, Nikolay Yaroslavovich; NALIVKIN, D.V., akademik, glav. red.;
BUBLICHENKO, N.I., doktor geologo-mineral. nauk, otv. red.;
BUL'VANKER, E.Z., kand. geologo-mineral. nauk, red.; ABKEVICH,
P.L., red. izd-va; IVANOVA, A.G., tekhn. red.

[Paleontological basis of the Paleozoic stratigraphy in the
Rudnyy Altai] Paleontologicheskoe obosnovanie stratigrafii
paleozoiia Rudnogo Altaia. Moskva, Gos. nauchno-tekhn. izd-
vo lit-ry po geol. i okhrane neдр. No.3. [Devonian Tetracoralla
in the Rudnyy Altay] Devonskie chetyrekhkucheyye korally Rudnogo
Altaia. 1960. 142 p. (MIRA 14:8)
(Altai Mountains—Rugosa)

BUBLICHENKO, N.L.

Stratigraphic control in metallogenic processes in the Rudnyy Altai.
Trudy Alt. GMNII AN Kazakh. SSR 10:196-208 '61. (MIRA 14:9)
(Altai Mountains--Geology, Stratigraphic)

BUBLICHENKO, N.L.

Convinian stage and some remarks about the Lower Devonian in
general. Biul. MOIP ~~Std.~~ geol. 36 no.1:76-88 Ja-F '61.
(MIRA 14:5)

(Geology, Stratigraphic)

DUBATOV, Viktor Nikolayevich; ~~BUBLICHENKO, N.L., red.;~~ SOKOLOV, B.S.,
red.; IONINA, I.N., red. izd-va; VINOGRADOVA, N.F., tekhn.
red.

[Tabulata and Heliolitidae in the Silurian and Devonian
sediments of the Rudnyy Altai] Tabuliaty i geliolitidy si-
luriiskikh i devonskikh otlozhenii Rudnogo Altaia. Moskva,
Akad.nauk SSSR, 1962. 109 p. 29 plates. (MIRA 15:8)

1. Chlen-korrespondent Akademii nauk Kazakhskoy SSR (for
Bublichenko). 2. Chlen-korrespondent Akademii nauk SSSR (for
Sokolov).

(Altai Mountains--Corals, Fossil)

BUBLICHENKO, N.L.

Methods for stratigraphic studies of the Rudnyy Altai. Trudy
Alt.GMNI AN Kazakh.SSR 12:3-21 '62. (MIRA 15:8)
(Altai Mountains--Geology, Stratigraphic--Research)

BUBLICHENKO, N.L.; KOZHEMYAKO, M.N.

Tectofacies of flyschoids and their genesis in the southwestern
Altai. Dokl. AN SSSR 152 no.4:931-933 0 '63. (MIRA 16:11)

1. Gornometallurgicheskiy nauchno-issledovatel'skiy institut
AN KazSSR. Predstavleno akademikom D.V. Nalivkinym.

BUBLICHENKO, N.L.; KOZHEMYAKO, M.N.

Facies and "flyschoids" in the southwestern Altai. Trudy Alt.
GMNII AN Kazakh. SSR 16:3-14 '63. (MIRA 17:10)

PAULLER, O.F.; ASTRAKHANTSEVA, A.M.; EUBLIENKO, V.A.

Case of cat fleas attacking people in uninhabited rooms. Dokl.
Irk. gos. nauch.-issl. protivochum. inst. no.5:177-179 '63
(MIRA 18:1)

~~BUBLIK, Andrey Ivanovich~~ [Bublyk, A.I.], kand.tekhn.nauk; OBOLENSKIY, Yu.A.,
[Obolens'kiy, IU.A.], dotsent, red.; TUBOLEVA, M.V. [Tubolieva, M.V.].
red.

[Water supply for stock farms] Vodopostachaniia tvarynnyts'kykh
ferm. Kyiv, 1958. 39 p. (Tovarystvo dlia poshyrennia politychnykh
i naukovykh snen' Ukrain's'koi RSR. Ser.3, no.22) (MIRA 12:2)
(Water supply, Rural)

BUBLIK, A.I. [Bublyk, A.I.], dots.

Filter of porous concrete for dug wells. Mekh. sil'. hosp. 9
no.2:15-16 F '58. (MIRA 11:3)
(Filters and filtration)
(Wells)

BUBLIK, A. I.

USSR/Physics - Monochromatic
X-ray Sources

May/Jun 52

"Employment of the Sharp-Focus Tube for Operation in Impulse Regime," A. I. Bublik and B. Ya. Pines; Khar'kov State University A. M. Gor'kiy

"Iz Ak Nauk SSSR, Ser Fiz" Vol 16, No 3,
pp 350-354

Report heard at the conference on powerful monochromatic x-ray sources, held at Khar'kov 24-26 Jan 52. V. V. Avgust participated in this report. Subject operation is important

232T104

for investigating those processes of structural variations that occur in time. In this connection tubes with higher power or rotating the or oscillating anodes were employed before the appearance of subject sharp-focus tubes (which permit shortening the time of exposure without increase of power). Now even better is subject impulse (rapid) x-ray tube.

232T104

2327105

USSR/Physics - Monochromatic

X-ray Sources

May/Jun 52

"An X-ray Tube With an Especially Long and Sharp Linear Focus and Some of Its Applications," A. I. Bublik, B. Ya. Pines; Kharkov State U Inent A. M. Gor'kiy

"Iz Ak Nauk SSSR, Ser Fiz" Vol 16, No 3, pp 355-359

Length of focus is 22 mm and the distance from focus to tube's focus is 12 mm, which permits use of x-ray beams with angular

2327105

convergence greater than 50°. This large convergence enables one successfully to photograph single-crystal samples according to the method of converging beam, the exposure being several times shorter than required to obtain x-ray photographs of rotation. Subject method is especially advantageous for photographing microcrystals, making it convenient for studying structure of alloys and metals.

2327105

U S S R .

Phase transition in changing the thickness of thin metal films. A. I. Rublik and B. Ya. Pines (A. M. Gorkii State Univ., Khar'kov). *Doklady Akad. Nauk S.S.S.R.* 87, 215-18 (1953).—In order to study the phase transitions between massive metals and their thin films, electron-diffraction studies were made with evapd. thin films of Be, V, Cr, Ni, and Co for a thickness range from 10^{-7} to 10^{-4} cm. The electron diffraction patterns show that the structure of the film depends on the rate of evapn. in formation of the film. For films of thickness $\sim 10^{-7}$ lines are observed that are due to phases unstable at room temp. for massive samples (e.g., β -Be). The stability of such phases is discussed.

J. Rostor Lench

BU LIL, A. I., GUBAYANOV, A. A., PINES, S. Ya.

"X-Ray Tube With Particularly Long and Sharp Linear Focusing"
Uch Zap. Kharkovskogo Univ. 49, Tr. Fiz. Otd. Fiz. Mat. Fak., 4, 1953,
pp 129-132

An X-ray tube with a focal spot 22 mm long and 0.3 mm wide is described. Electrostatic focusing of the electron beam formerly used for tubes with a focal point (cf. V. D. Pozverkhim and S. Ya. Pines, Zh. Tekh. Fiziki, 17, (1947) was applied. Tests with crystals proved that the tube may serve as powerful monochromatic source for analysis of scattering of fluids and for radiograms of microcrystalline objects. (izv. fiz., No 2, 1955)

SO: Sum. 402, 12 May 55

BUBLIK, A. D.

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✓ Impulse sharp-focus X-RAY tube for structure analysis.
V. V. Avgust, A. I. Bublik, and B. Ya. Pines. *Uchenye*
Zapiski Khark'kov. Univ. 49, *Trudy Fis. Otdel., Fis.-Mat.*
Fakul'teta 4, 133-8 (1953); *Referat. Zhur., Khim.* 1954,
No. 60289. —Structural details are given. M. Hosh

Smw

(2)

BUBLIK, A. I.

Nonequilibrium states in thin films of metals and alloys.
III. Electronographic study of thin cobalt films. A. I.

Bublik, B. I., Vyazmitina, and B. Ya. Pines. *Uchenye Zapiski Khar'kov. Univ.* 49; *Trudy Fiz. Otdel. Fiz-Mat. Fakul'teta* No. 4, 139-50(1953); cf. *C.A.* 49, 7949c. CH
Data are given for an electronographic study of free, thin Co films that were obtained by evapn. and condensation of the metal in *vacuo*. A structural change in the films was detd. in relation to the evapn. rate and thickness of the film. The thickness was measured by an optical-interference method. A disordered nt. distribution was noted in films resulting from slow evapn. Interference max. were absent on the electronograms. With rapid evapn. (several secs.) there was a well-ordered distribution of atoms. Thus, in the cases of both V and Be (*ibid.* 39, No. 3, 75(1952)), the relation of structure to the thickness of the film is shown. In very thin films ($2 - 3 \times 10^{-7}$ cm.) Co occurs in an "amorphous" state. Two clearly defined diffusion rings are present on the electronogram. In films with a thickness of $\sim 10^{-6}$ cm. the structure of Co corresponds to the β -modification (face-centered cubic). Hexagonal Co is observed in films that are thicker than 10^{-6} cm. In the thickness range from 4×10^{-7} to 8×10^{-7} cm. there are lines on the electronograms that do not correspond to the known Co modifications. IV. Structure of nickel and chromium in thin layers. Thermodynamic conditions for phase stability in thin films. A. I. Bublik and B. Ya. Pines. *Ibid.* — Data are given for an electronographic study of thin Ni and Cr films, obtained by evapn. the metal in *vacuo*. Just as with Co, in Ni and Cr films that are deposited by rapid evapn. there is a relation between the structure and the thickness. In films

with a thickness of $> 6 \times 10^{-7}$ cm. the same crystal structure is obtained as with massive samples. With thicknesses of $\leq 4-6 \times 10^{-7}$ cm. another structure is observed; with Ni it is hexagonal and with Cr it is complex cubic similar to α -Mn. On the electrograms for films deposited by slow evapo. of the metal, the interference max. are enlarged. Thermodynamic conditions for phase equil. in thin layers are considered, and here the "crit. thickness" l^* is possible, below which modification 2 becomes stable. l^* is detd. by the relation: $l^* = (\Omega_2 - \Omega_1)/(F_1 - F_2)(1)$, where Ω_1 and Ω_2 are surface energies, F_1 and F_2 are "vol." free energies of the two phases. By taking into account the interaction between the nearest neighbors, equation 1 has the form: $l^* = d[d(1 - Z_1/Z_2) - d_1(1 - Z_1/Z_1') + d_2(1 - Z_2/Z_2')]/[1 - (T/T^*)](2)$, where Z_1 and Z_2 are vol. and surface coordination quantities, d is the distance between at. layers parallel to the surface, ϵ is the relation of the latent heat of phase transition to heat of evapo., T^* is the temp. of phase transition for massive samples. According to a calcn. on the basis of equation 2, when the metal in a massive sample has a face-centered cubic lattice, the formation of a body-centered lattice in the thin film is very improbable. The reverse situation is very probable. The formation of a hexagonal lattice in the thin film is also possible, if the metal has a face-centered cubic lattice in the massive sample. Through *Referat. Zhur., Fiz.* 1955, No. 4776. Marjorie Ketner

(2)

EUDLIK, A.I. and PINES, B.Ya.

"The Unbalanced State in Thin Films of Metals and Alloys," IV,

"The Structure of Nickel and Chrome in Thin Layers,"

"The Thermodynamic Conditions of Phase Stability in Thin Films,"
Uch. zap. KhGU. /Scientific notes of Khar'kov State University/ V. 48,
Tr. Fiz. otd. /Works of the Physics Dept./ No. 4, Kh. State Univ.
publication, 1953

Bublik, A.I.
USSR/Physics - Electronograph

FD-1019

Card 1/1 : Pub. 153 - 23/24

Author : Pines, B. Ya., and Bublik, A. I.

Title : High-temperature electronographs

Periodical : Zhur. tekhn. fiz., 24, 1139-1145, Jun 1954

Abstract : Describes a high-temperature electronograph of simple design (without magnetic lenses) for obtaining electronograms of specimens found at high-temperatures, in the form of thin plates and in the form of massive slides. The thin plates are of finely crystalline aluminum and other substances, practically single-crystals. Five references, all USSR (Z. G. Pinsker, B. K. Vaynshteyn, V. D. Bezverkhiy).

Institution : -

Submitted : July 19, 1954

BUBLIK, N. I.

1. Electronographic examination of thin silver films. A. I. Bublik (A. M. G. Kharkov State Univ., Kharkov). *Dokl. Akad. Nauk S.S.S.R.* 95, 531-3 (1954).—Films of less than $4 \text{ to } 5 \times 10^{-7}$ cm. thickness show, besides the cubic, face-centered unit cell ($a_0 = 4.08 \text{ \AA}$), distinct interferences of a hexagonal, more densely packed, modification, with $a_0 = 2.88 \text{ \AA}$, and $c_0 = 4.71 \text{ \AA}$. Unstable films with this modification may even be prepd. up to 10×10^{-7} cm. thickness, but these are easily inverted to the stable cubic Ag form by heating. The rate of evapn. of the Ag in producing the films on a support of controlled temp. det. the intensity of the amorphous background of the electron interferences, and the variable distinctness of the lines in the electronograms. A "crit. thickness" is defined as a function of the surface tensions, and the free energies of the cubic and hexagonal modification. This crit. datum is about $4 \text{ to } 5 \times 10^{-7}$ cm. in agreement with the electronographic results. W. Bittel.

BUBLIK, A.I.

"Electron Diffraction Study of Fine Silver Films," DAN SSSR, V. 96, No 3,
AN (Academy of Sciences) USSR publication, M. - L. 1954,

BURLIK, A.I.

PINES, Boris Yakovlevich, professor: BURLIK, A.I., dotsent, kandidat
fiziko-matematicheskikh nauk, otvetstvennyy redaktor; TRUB'YAKOVA,
A.M., redaktor izdatel'stva; TROFIMENKO, A.S., tekhnicheskiy
redaktor

[Lectures on structural analysis] Lektsii po strukturnomu analizu.
Izd. 2-oe, perer. Khar'kov, Izd-vo Khar'kovskogo gos.univ. im.
A.M.Gor'kogo, 1957. 454 p. (MLBA 10:9)
(Crystallography)

BUBLIK, A.I.

AUTHOR: Bublik, A.I.

70-2-7/24

TITLE: Electronographic investigation of the structure of thin liquid layers of tin. (Elektronograficheskoye issledovaniye stroeniya tonkikh zhidkikh plenok olova)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.2, pp. 249-254 (U.S.S.R.)

ABSTRACT: Electronograms were obtained from liquid layers of Sn about $2-3 \times 10^{-6}$ cm thick. The specimens were heated and the changes in diffraction pattern recorded. On approaching the m.p. the further outlines became broad and diffuse and then vanished altogether and at the m.p. itself there remained only a few broad low-angle rings. The latter coincided with the mean positions of groups of sharp lines in the powder photograph at room temperature. The radial distribution curve was calculated from the intensity data using the formula $4\pi R^2 \rho(R) = 4\pi R^2 \rho_0 + \frac{2R}{\pi} \int_0^\infty s J_n(s) \sin sR ds$ normally used for

X-ray work. Here $\rho(R)$ is the atomic density function, Card 1/3 ρ_0 the average density,

$$J_n(s) = J(s)/Nf^2 - 1,$$

Electronographic investigation of the structure of thin liquid layers of tin. (Cont.) ^{70-2-7/24}

$$s = \frac{4\pi \sin \theta}{\lambda} ,$$

$$f^2 = \frac{(Z - f_p^2)}{s^4} ,$$

Z being the atomic number and f_p the X-ray atomic scattering amplitude. J(s) represents the intensity of the coherent scattering, to obtain which the incoherent scattering has to be subtracted from the observed intensity. The incoherent scattering is estimated from the very high angle scattering from the liquid and from the background between sharp lines from the crystalline specimen.

The resulting calculation gives the average surroundings of a Sn atom to be the following (compared with N.S. Gingrich, Usp. Khimii 15, 297, 1946 - values bracketted).

Card
2/2

Electronographic investigation of the structure of thin liquid layers of tin. (Cont.) ^{70-2-7/24}

Temp. °C.	First Co-ord. sphere.	Second	Third
	R Å Number	R Number	R Number
20	3.05 4	3.78 4	4.42 8
	3.17 2		4.91 4
235	3.4 7	3.95 6	4.75 8
300	3.6 11.5		
(250	3.38 10)		
(390	3.36 8.9)		

These results are interpreted to mean that at the melting point the structure of Sn remains close to that of solid white Sn and with further heating the atoms tend to close packing (which is reached at about 300 C) and at higher temperatures the density of packing decreases. Acknowledgments to Prof. B.Ya. Pines. There are 6 references, of which 5 are Slavic, 5 figures and 2 tables.

Card 3/3

ASSOCIATION: Kharkov State University im A.M. Gorkogo. (Kharkovskiy Gosudarstvennyy Universitet im A.M. Gorkogo)
 SUBMITTED: June 30, 1956.
 AVAILABLE: Library of Congress

Bublik, A.I.

AUTHOR: Bublik, A.I. and Buntar', A.G.

70-2-8/24

TITLE: The determination of the atomic radial distribution function in a liquid metal alloy from electronogram data.
(Opredeleniye funktsii radial'nogo raspredeleniya atomov v zhidkom metallicheskom splave po dannym elektronogramm)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.2, pp. 255-259 (U.S.S.R.)

ABSTRACT: The theory of a method for deriving the radial density distribution function from electron diffraction data is developed for the case where several kinds of atoms are present in a liquid alloy. The equation appropriate for X-ray scattering:

$$4\pi r^2 \rho(r) = 4\pi r^2 \rho_0 + \frac{2r}{\pi} \int_0^\infty s \left(\frac{I(s)}{NF^2} - 1 \right) \sin s R ds$$

is modified to average over the different kinds of atoms to give:

$$4\pi r^2 k_{\text{alloy}} \rho_{\text{alloy}}(r) = 4\pi r^2 k_{\text{alloy}} \rho_{\text{alloy}} + \frac{2r}{\pi} \int_0^\infty s i(s) \sin(sr) ds$$

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where $k_{\text{alloy}} = C_a k_a + \dots + C_n k_n$, $\rho_{\text{alloy}}(r) = \rho_a(r) + \dots + \rho_n(r)$,

70-2-8/24

The determination of the atomic radial distribution function in a liquid metal alloy from electronogram data. (Cont.)

C_m = atomic concentration in the alloy, N = total number of scattering atoms, $k_m = F_m/f_e$ the effective number of scattering electrons in an atom of m , $f^2 = (Z-F)^2/s^2$, $s = 4\pi \sin \theta / \lambda$, $f_e = \sum (F_m / \sum Z_m)$ and $i(s) = [I'(s) - \sum F_m^2] / f_e^2$.

The above formula was applied to data obtained photo-metrically from electronograms taken of a layer of 60% Al, 40% Sn 3×10^{-6} cm thick at 520 C. The layer was produced by vacuum evaporation. The density curve showed three maxima corresponding to Al-Al distances of 2.70 Å (10.0 neighbours), Sn-Sn distances of 3.40 Å (6.2 neighbours) and Al-Sn + Sn-Al distances of 3.05 Å with 1.0 and 1.5 to 1.6 neighbours, respectively. There are 9 references, 8 of which are Skvic, 1 figure and 1 table.

Card 2/2

ASSOCIATION: Kharkov State University im. A.M. Gorkogo (Kharkovskiy Gosudarstvennyy Universitet im. A.M. Gorkogo)

SUBMITTED: October 3, 1956.

AVAILABLE: Library of Congress.

Bublik, A. I.

AUTHORS: Bublik, A. I. and Buntar', A. G.

126-1-8/40

TITLE: Determination of the density of the distribution of atoms in liquid aluminium and bismuth at various temperatures from data of electron diffraction patterns.
(Opredeleniye plotnosti raspredeleniya atomov v zhidkikh Al i Bi pri razlichnykh temperaturakh po dannym elektronogrammm).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol 5, No.1, pp. 53-57 (USSR)

ABSTRACT: In an earlier paper (Ref.1) data are given on the study of the structure of liquid tin by means of electron diffraction patterns at two temperatures, namely, at the melting point temperature and at 300°C. On the basis of analysis of the curves of the density of atom distribution, it is shown that the structure of liquid tin changes with increasing temperature. At the melting point temperature, the distribution of the atoms is basically the same as in crystalline tin; with increasing temperature the liquid tin aims to attain a dense packing. The authors considered it of interest to verify this characteristic also on other metals and in this paper the results are given of electron diffraction investigation of the structure of liquid aluminium which, in the solid state,

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126-1-8/40

- Determination of the density of the distribution of atoms in liquid aluminium and bismuth at various temperatures from data of electron diffraction patterns.

has a densely packed lattice and of Bi which has a rhombohedral lattice approaching the simple cubic lattice. The preparation of the specimens, the taking of the electron diffraction exposures and the calculations were carried out in the same way as in the earlier work. Electron diffraction exposures were made for aluminium films of the thicknesses $2 \cdot 10^{-6}$ to $3 \cdot 10^{-6}$ cm at the temperatures 670, 720 and 850°C and for Bi films of equal thicknesses at 280, 300 and 400°C; the $I(s)$ curves for various temperatures are entered in the graphs Figs. 1 and 2 and the positions of the maxima of these curves are entered in Table 1, p.54. The radial distribution density of the atoms is graphed in Fig.3 for aluminium (for 670, 720 and 850°C) and in Fig.4 for bismuth (for 200, 300 and 400°C). The number of near neighbours at various temperatures were determined for liquid aluminium and bismuth. It was found that at the melting point temperature the short range order is fundamentally the same as in crystalline aluminium and with increasing temperature the density of the particles decreases; the short range order in bismuth at a

Card 2/3

126-1-8/40

Determination of the density of the distribution of atoms in liquid aluminium and bismuth at various temperatures from data of electron diffraction patterns.

temperature approaching the crystallisation temperature is also similar to the order of distribution of the particles in solid bismuth, whilst with increasing temperature (up to 300°C), the bismuth tends to become more densely packed in the same way as was observed in earlier work for tin; in the case of considerable overheating, the density of the atom distribution in aluminium as well as in bismuth approaches the average density. Acknowledgment is made to Professor B. Ya. Pines for his advice during the execution of the work. There are 4 figures, 2 tables and 6 references, three of which are Slavic.

SUBMITTED: July 16, 1956.

ASSOCIATION: Khar'kov State University. (Khar'kovskiy Gosudarstvennyy Universitet).

AVAILABLE: Library of Congress.

Card 3/3

AUTHORS: Bublik, A.I. and Buntar', A.G. SOV/70-3-1-6/26

TITLE: Electron Diffraction Study of the Structure of Liquid Metals and Alloys (Elektronograficheskoye issledovaniye stroyeniya zhidkikh metallov i splavov)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 1, pp 32 - 42 (USSR)

ABSTRACT: This is an abridged version of a paper read at the first All-Union conference on electron diffraction in January, 1957. Some years ago in the laboratory of the department of solid-state physics of the Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University) a method was developed for electron diffraction studies of liquids (Refs 6, 7) and systematic work was begun on the structure of liquid metals and alloys. Up to that time, electron diffraction technique was almost never used in structural analysis of liquids. There are only two papers (Ref 8) in which electronograms are reported for a few liquid metals and alloys. In the method now described the structure of liquid metals and alloys was studied, using electronograms obtained with "free" liquid films with a thickness of between 10^{-5} and 10^{-6} cm. The method of preparation of polycrystalline unbacked films was described

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Electron Diffraction Study of the Structure of Liquid Metals and Alloys

SOV/70-3-1-6/26

earlier (Ref 9). Such films are obtained by evaporation onto a glass or mica plate in such a way that first a soluble (in water) film of some material is deposited and then the metal itself. When such a plate is placed in a solvent the metallic film can easily be separated from the backing and floats freely on the surface of the solvent. Such a film can then be easily removed and placed in a special holder for use in a high-temperature electronograph. The electronograph in the above department is very simple (Ref 6). Its main advantage is that structural studies can be carried out at high temperatures. However, in high-temperature work very careful preparation of specimens is necessary and it must be ensured that the heating device does not out-gas. Figure 1 shows a device which acts both as a heater and specimen holder. The device is in the form of a tantalum plate with an aperture in the middle upon which the specimen is placed. The tantalum ribbon is fixed in a holder whose ends are insulated from the body. In Figure 1 (7) is the tantalum ribbon on which the specimen is placed. By passing a current through the tantalum ribbon the specimen can be

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Electron Diffraction Study of the Structure of Liquid Metals and Alloys

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heated to any temperature and changes in its structure can be followed either on a screen or by photographic means. Integral analysis of intensity curves was used to determine the degree of short-distance order. This method was described by the present authors in Refs 7 and 11 for liquid metals and Refs 12 and 13 in the case of alloys. To calculate the radial distribution in monatomic liquids, Formula (1) was used. To determine the corresponding function in the case of liquid alloys Eq (5) was used. Figures 2-6 show the radial distributions at various temperatures in liquid Bi, Al, Sn and In. The temperature range covered is 235 - 850 °C. The following conclusions can be drawn from these results: 1) liquid metals (independently of the type of the crystal lattice) have the same short-distance order as the crystalline state at the melting point; 2) in the case of metals with dense packing, the co-ordination number decreases with increasing temperature and in the case of "loose" packing this number increases; 3) at high temperatures the distribution density in all liquid metals tends to a smooth curve.

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SOV/70-3-1-6/26

Electron Diffraction Study of the Structure of Liquid Metals and Alloys

The following alloys were investigated: Bi-Sn, Al-Sn, and Al-In. The radial distribution curves for these alloys at various temperatures and compositions are given by Figures 9-14. Results obtained for these alloys show that thin films of liquid alloys (of any concentration) consist, at temperatures close to the crystallisation point, of regions enriched with one of the components. The character of the packing in these "uniform" regions is very similar to the packing in the corresponding pure liquid metals. There are 14 figures, 5 tables and 18 references, 3 of which are German, 1 English and 14 Soviet.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im.
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A.M. Gor'kiy)

SUBMITTED: February 26, 1957

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AUTHOR: Bublik, A.I.,
Buntar', A.G.

SOV/126-6-4-18/34

TITLE: Electron-Diffraction Study of the Structure of Liquid Alloys in the Al-Sn System (Elektronograficheskoye issledovaniye stroyeniya zhidkikh splavov sistemy Al-Sn)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 4, pp 692-699 (USSR)

ABSTRACT: In contrast to liquid metals, the structure of molten metal alloys has not been studied in great detail. One of the first papers on this subject was written by Danilov and Radchenko (Ref.1), followed later by the work of Skrishevskiy (Ref.2). The present authors suggested (Refs.3-5) that electron diffraction was a useful technique in the study of the structure of liquid metal alloys. A method of calculation on the radial distribution of the density of atoms in a liquid alloy from electron diffraction intensities was given in Ref.5. The present paper gives the results of electron-diffraction study of the structure of liquid Al-Sn alloys of the following compositions: 80% Al, 20% Sn; 60% Al, 40% Sn; 40% Al, 60% Sn; 20% Al, 80% Sn;

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(all in atomic %). Each alloy was studied at several temperatures ranging from the neighbourhood of its melting point to about 150°C above it. The alloys were in the form of thin films (3×10^{-6} cm) prepared by evaporation and condensation in vacuo. The composition of an alloy was determined by weighing. The samples were melted and electron-diffraction patterns were obtained in the high-temperature apparatus described by Pines and Bublik (Ref.7). From the diffraction patterns intensity curves were constructed, e.g. Fig.1 which gives the intensities for the alloy with 80% Al at 600°C (curve 1), 700°C (curve 2), 750°C (curve 3). Positions of the maxima on the intensity curves of all the alloys studied are given in Table 1. From the intensity curves the distributions of atoms in the four alloys were derived (Figs.2-5). The authors make the following deductions from the data of Figs.2-5. At temperatures just above the melting point, liquid Al-Sn alloys possess regions consisting mainly of atoms of one kind (e.g.Al);

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this agrees well with the X-ray diffraction studies of liquid alloys reported by Danilov, Radchenko and Skrishevskiy (Refs. 1-2). Coordination numbers calculated for all the four alloys (Table 2, Fig.6-7) show that the packing in the regions consisting of atoms of one kind is similar to the packing in the corresponding pure metals. With increase of temperature a gradual mixing of atoms occurs and the distribution of the two components becomes more uniform. It is pointed out that the studies reported in the present paper were made on films 3×10^{-6} cm thick and, therefore, the results obtained may not apply to liquid alloys in bulk. Acknowledgments are made to Professor B.Ya.Pines for his advice. There are 7 figures, 2 tables and 9 references of which

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Electron-Diffraction Study of the Structure of Liquid Alloys
in the Al-Sn System

8 are Soviet and 1 German.

ASSOCIATION: Kharkovskiy Gosudarstvennyy Universitet imeni
A.M.Gor'kogo (Khar'kov State University imeni
A.M.Gor'kiy)

SUBMITTED: 8th February 1957.

Card 4/4

18.1290
18.9000

66982
SOV/81-59-13-45213

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 13, p 71 (USSR)

AUTHORS: Bublik, A.I., Buntar', A.G., Gayevaya, N.P.

TITLE: The Investigation of the Structure of Liquid Alloys of the Bi-Sn System
by the Electronographic Method

PERIODICAL: Uch. zap. Khar'kovsk. un-t, 1958, Vol 98, Tr. Fiz. otd. fiz.-matem. fak.,
Vol 7, pp 251 - 256

ABSTRACT: The scattering of electrons by liquid Bi-Sn alloys has been investigated
(for alloys with 20, 50, and 80 atomic % Bi at temperatures close to the
crystallization point, and for the alloy with 50% Bi also at 270°C). The
samples were prepared in the form of "free" films $(2 - 3) \cdot 10^{-6}$ cm thick
by evaporation and condensation in vacuum. The scattering intensity curves
of all alloys, a little overheated above the melting point, agree well with
the calculated ones obtained from the intensity curves for pure components
by the law of additivity. In the case of overheating by several dozens of
degrees above the liquidus there is no such agreement. Based on the intensi-
ty curves of scattering the curves of the radial distribution of atoms
in the alloy with 50% Bi have been calculated. The numbers of the adjacent

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The Investigation of the Structure of Liquid Alloys of the Bi-Sn System by the Electronographic Method

neighbors and the coordination number have been determined approximately. The conclusion is drawn that liquid films of Bi-Sn alloys of any concentration at the melting point consist of regions, in which mainly atoms of one type are found. At overheating by several dozens of degrees this microstratification disappears.

D. Belashchenko

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BUBLIK, Andrey Ivanovich [Dublyk, A.I.]; KRASNITSKIY, Mikhail
Sergeyevich [Krasnyts'kyi, M.S.]; BOROVSKIY, Eduard
Rudol'fovich [Borovs'kyi, B.R.]; KYIANICHENKO, N.S.
[Kyianichenko, N.S.], red.; LEUSHCHENKO, N.L., tekhn.
red.

[Use of glass pipes in the water piping in farm build-
ings] Sil's'kyi vnutrishnii vodoprovod iz sklianykh trub.
Kyiv, Derzhbudvydav URSR, 1963. 30 p. (MIRA 17:1)

BUBLIK, A., gvardii polkovnik, voyennyy shturman vtorogo klassa

Before you make a decision... Av. i kosm. 47 no.7:6-9 J1 '65.
(MIRA 18:6)

69489

S/020/60/131/04/02/073

16.5600

AUTHOR: Bublik, B.A.

TITLE: On the Existence of Non-Rigid Closed Surfaces 16

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol.131, No.4, pp 725-727.

TEXT: Continuing the investigations of N.N.Yefimov (Ref.3) and E.G.Poznyak (Ref.4) and of the own paper (Ref.5) the author constructs the example of a non-rigid regular closed surface with not less than two linearly independent infinitesimal bendings.

The author mentions L.V.Kantorovich.

There are 6 Soviet references.

ASSOCIATION: Magnitogorskiy gosudarstvennyy pedagogicheskiy institut
(Magnitogorsk State Pedagogical Institute)

PRESENTED: December 1, 1959, by P.S.Aleksandrov, Academician

SUBMITTED: November 20, 1959

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BUBLIK, B. A.

Cand Phys-Math Sci - (diss) "Occurrence of closed surfaces of rotation accessible to not less than two linearly independent infinitely small bendings." Moscow, 1961. 7 pp; (Moscow Order of Lenin and Order of Labor Red Banner State University imeni M. V. Lomonosov; Mechanics-mathematics faculty); 200 copies; price not given; (KL, 5-61 sup, 172)

BUBLIK, B.A.

Number of fundamental infinitesimal deformations of closed finned
surfaces of revolution. Usp. mat. nauk 18 no.2:121-125 Mr-Apr
'63. (MIRA 16:8)

(Surfaces, Deformation of)

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26.2145

S/040/60/024/005/021/028
C111/C222

AUTHORS: Bublik, B.N., and Merkulov, V.I. (Kiyev)

TITLE: On the Dynamic Stability of Thin Elastic Shells Filled up With a Fluid

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol.24, No.5, pp.941-946

TEXT: The authors consider a thin elastic shell the inner cavity of which is entirely or partially filled with an ideal incompressible fluid. The question for the dynamic stability leads to the solution of the variation problem

$$(1.1) \quad \delta \int_{t_0}^t (T'' - A'' - U'') dt = 0,$$

where T'' and U'' are the kinetic and the potential energy of the disturbed system, while A'' is the work of a certain reduced load on the shifts of the disturbance and is defined as in (Ref.2). If the inertia terms can be neglected or if the initial state of the shell is almost free of moments it holds

$$(1.5) \quad A'' = \frac{1}{2} \iint_{\Sigma} [F_{\alpha} u + F_{\beta} v + F_n w] d\sigma,$$

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where

$$F_p = \frac{1}{PQ} \left[\frac{\partial}{\partial \beta} (\epsilon_1 P T_2^0) - T_1^0 \frac{\partial}{\partial \beta} (\epsilon, P) + \frac{\partial}{\partial \alpha} (\epsilon_2 P S^0) + S^0 \frac{\partial}{\partial \alpha} (\epsilon_2 Q) - q_p (\epsilon_1 + \epsilon_2) \right]$$

(1.4)

$$F_n = T_1^0 \kappa_1 + T_2^0 \kappa_2$$

$$F = \frac{1}{PQ} \left[\frac{\partial}{\partial \alpha} (\epsilon_2 Q T_1^0) - T_2^0 \frac{\partial}{\partial \alpha} (\epsilon_2 Q) + \frac{\partial}{\partial \beta} (\epsilon_1 Q S^0) + S^0 \frac{\partial}{\partial \beta} (\epsilon_1 P) - q_n (\epsilon_1 + \epsilon_2) \right]$$

Here and later on Σ is the middle surface; α, β are its curvilinear coordinates; n is its normal; P and Q are the coefficients of its first fundamental form; u, v, w are shifts corresponding to α, β, n ; m_0 and ρ are mass densities of the surface of the shell and the volume of the fluid; $\epsilon_1, \epsilon_2, \omega, \kappa_1, \kappa_2, \tau$ are relative deformations of the shell expressed by u, v, w according to the linear theory of shells; T_1^0, T_2^0, S^0 are stresses of the undisturbed shell by which the initial state free of moments is characterized; q_α, q_β, q_n are the outer loads; a is the acceleration of the

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On the Dynamic Stability of Thin Elastic Shells Filled up With a Fluid
translation of motion of the system; V is the volume of the fluid, φ is the velocity potential of the fluid in V ; Σ_1 is the part of the boundary of V where $\frac{\partial \varphi}{\partial n}$ is known; Σ_2 is the part of the boundary of V where φ is known; G is the Green's function of the Neumann-Dirichlet problem for the Laplace equation in V .
It holds

$$(1.6) \quad \varphi = \iint_{\Sigma_1} G \frac{\partial \varphi}{\partial n} d\sigma - \iint_{\Sigma_2} \frac{\partial G}{\partial n} \varphi d\sigma.$$

The solution of (1.1) leads to four differential equations

$$(1.7) \quad L_{11}(u) + L_{12}(v) + L_{13}(w) + \frac{1-\nu^2}{Eh} \left[F_{\alpha} - m_0 \frac{\partial^2 u}{\partial t^2} \right] = 0$$

$$L_{21}(u) + L_{22}(v) + L_{23}(w) + \frac{1-\nu^2}{Eh} \left[F_{\beta} - m_0 \frac{\partial^2 v}{\partial t^2} \right] = 0$$

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$$L_{31}(u) + L_{32}(v) + L_{33}(w) + \frac{1-\nu^2}{Eh} \left[F_n - m_0 \frac{\partial^2 w}{\partial t^2} - \rho \frac{\partial \varphi}{\partial t} \right] = 0$$

$$\Delta \varphi = 0.$$

The boundary conditions correspond to the clamping of the boundary of the shell

[Abstracter's note: not given]
and φ :

$$(1.8) \quad \frac{\partial^2 \varphi}{\partial t^2} + a \frac{\partial \varphi}{\partial z} = 0 \text{ on the free surface } z = 0$$

$$(1.9) \quad \frac{\partial \varphi}{\partial n} = \frac{\partial w}{\partial t} \text{ on the wetted inner surface.}$$

The operators L, M, E, N and the vector $X(u, v, w, \varphi)$ can be introduced so that (1.7) assumes the form

$$(2.1) \quad LX + MX + E \frac{\partial^2 X}{\partial t^2} + N \frac{\partial X}{\partial t} = 0.$$

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On the Dynamic Stability of Thin Elastic Shells Filled up With a Fluid
Here L,M,E,N satisfy all conditions for the existence and uniqueness of
a generalized solution according to the theorem 3 of Vishik (Ref.6).
As an application of the described theory the authors consider a circular
cylindrical shell filled with a fluid, with a flexibly clamped boundary.
The investigation leads to a system of Hill's equations the investigation
of which yields the eigenfrequencies and kinetic forces for the system
shell + fluid. If especially the shell is filled completely with a fluid
then the question for the stability for arbitrary shell parameter and
loads can be answered with the aid of the stability diagram for the
appearing Hill's equations.
The authors thank N.N.Moiseyev for the theme and advices. There are 6
Soviet references. X

[Abstracter's note: (Ref.2) concerns V.V.Bolotin, Dynamic Stability of
Elastic Systems, 1956. (Ref.6) concerns a paper of M.I.Vishik in Doklady
Akademii nauk SSSR, Vol.100, No.3]

SUBMITTED: November 25, 1959

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